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ABSTRACT

The second phase of a curricular articulation project conducted as a coordinated effort among school districts, vocational-technical institutes, and community colleges involved in the Northeast Vocational Advisory Council (NEVAC) developed career ladders in three vocational program areas and a model useful to others developing similar ladders. The two subject areas identified for curricular exploration and development were data processing and accounting. A secretarial ladder developed in the first phase was further refined and validated. Instructors in each curricular area met with professionals from the field to develop career ladders, sample job titles, entry pay levels, and competency checklists for each step on the identified career ladders. These materials were validated in representative industries and by teachers providing training in the career field, and the process for dissemination and incorporation into programs was set in motion. (Appendixes, amounting to well over one-half of the report, include drafts and final versions of the career ladders and a sample competency checklist worksheet.) (YLB)

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ED185389

THE DEVELOPMENT OF CAREER LADDERS IN SELECTED OCCUPATIONAL PROGRAMS

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This project was made possible only because of the willingness of the vocational directors and teachers in the participating institutions to share their time and their "program knowledge" with their colleagues and the project staff. While we are indebted to many for the successful conduct of this project, we would like to specifically list the names of those directly involved:

Vocational Administrators

Joe Brisson, Vocational Director, Northshore School District

Jim Carter, Vocational Director, Lower Snoqualmie Valley School District

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Gary Clyde, Lake Washington School District

Laura Cook, Interlake High School

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Al Dormaier, Newport High School

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Primrose Hawn, Lynnwood High School
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Georgia Kinkaid, Mount Rainier High School
Carol Lawrence, Snoqualmie Valley School District
Pat Lay, Bothell High School
Vern Lindquist, Issaquah High School
Don McGilvra, Shoreline Community College
Ann Mitchell, Inglemoor High School
Gene Mount, Bellevue High School
Jim Murphy, Newport High School
Lee Nordgren, Mercer Island High School
Gary Oertli, Edmonds Community College
Catherine Pattermann, Shorewood High School
Isla Replogle, Shoreline High School
Marv Romsland, Sammamish High School
Pete Shepherd, Shorecrest High School
Barbara Sievertsen, Edmonds School District
Myra Sorenson, Edmonds High School
Peggy Stevenson, Shorewood High School
Ardelle Tallman, Edmonds School District
Wil Wolf, Edmonds Community College
Ben Yormark, Highline School District
Gina Yousoufian, Bellevue Community College

SUMMARY OF THE ARTICULATION PROJECT

A curricular articulation project was developed and conducted as a coordinated effort among ten school districts, two vocational-technical institutes and three community colleges, comprising a regional area north and east of the City of Seattle. The purpose of this second phase of the articulation project was to develop career ladders in three vocational program areas, and to develop a model of the process which could be useful to others in developing similar ladders. This articulation effort involved secondary schools, vocational-technical institutes and community colleges. A steering committee consisting of the vocational directors of each school district, VTI, and community college worked with the project director to develop and conduct the study.

A survey of vocational course effort and current enrollments was conducted to identify and compare, on a common basis, program profiles among the three types of institutions. Based on this information, the two subject areas identified for curricular exploration and development by instructors from each of the three institutional levels were data processing and accounting. A secretarial ladder developed in the first phase was further refined and validated.

Instructors in each curricular area met with professionals from the field to develop career ladders, sample job titles, entry pay levels, and competency checklists for each step on the identified career ladders. These materials were validated in representative industries, and a process for dissemination and incorporation into programs was set in motion.

DEVELOPING CAREER LADDERS IN SELECTED OCCUPATIONAL FIELDS

During the 1975-76 school year, eleven school districts, three community colleges, and two vocational technical institutes involved in the Northeast Vocational Advisory Council (NEVAC) developed career ladders and related competency statements for specific occupational areas within the business and office, health occupations, and child development fields. This process involved groups of teachers working together to identify the key career steps within a given occupational area and to describe the competencies and expectations required by persons entering the several career steps. While this process resulted in a fairly complete career ladder in the four areas of nursing, health office support services, child development, and secretarial/clerical, those involved in the development of these several career ladders felt a definite need to verify their thinking with a broader sampling of teachers and, even more important, a group of persons actually employed in the specified career steps. There was also some dissatisfaction over the fact that the four career ladders developed during the 1975-76 school year did not cover all program options available within the business and office, health occupations, and child development training fields.

Recognizing these two problems, the vocational directors of the NEVAC school districts designed a follow-up study to provide the needed validation of work already completed and to develop a more complete coverage of career possibilities within just one of the three career fields mentioned above. The business and office field was selected for this more complete development of career laders. Specific areas for career ladder development were identified as secretarial/clerical (already developed in rough form as part of the 1975-76 project), accounting, and data processing. The procedures used in developing and validating these three career ladders were to be used in producing a model, useable in individual districts and/or schools, for developing and validating career ladders and competencies for any vocational area. Succeeding sections of this report address these two outputs --- fully developed career ladders in the secretarial/clerical,accounting, and data processing areas and a generalized model for developing and validating career ladders --- of the NEVAC project. A final section of the report outlines future uses of the career ladder materials and processes.

Developing Career Ladders for Business and Office

As part of the 1975-76 project, five areas within the Business and Office field were identified for possible career ladder development. These were as follows:

Accounting
Data Processing
Distributive Education
Real Estate
Secretarial/Clerical

While the funding support for this particular follow-up work would not permit development and validation in all five areas, it was felt that the accounting, data processing, and secretarial/clerical areas could be accommodated. These latter three areas account for most of the enrollments in NEVAC schools and are also, in the judgment of the vocational directors, most in need of articulation across the several school levels. Of the three areas selected, only the secretarial/clerical had been the subject of development work in the previous project; hence, the first step (as identified on the timeline of Attachment A) was that of developing career ladders and entry-level competencies for the accounting and data processing areas. The initial draft of these career ladders was completed by the following persons in a single day workshop on August 16, 1977:

Accounting

Burton C. Albright, A/P Coordinator, PacCar Corporation
Russell A. Davis, Washington Society of CPA's
Donna Hoffman, teacher, Lake Washington Voc-Tech Institute
Donald E. MacGilvra, teacher, Shoreline Community College
Leo S. Sherrick, teacher, Montlake Terrace High School, Edmonds School District
Dennis Weston, Moss, Adams and Company, CPA's

Data Processing

Eloise Kagarice, teacher, Renton Voc-Tech Institute
John Kropf, Seattle Pacific University
George Miller, teacher, North Seattle Community College
Jim Murphy, teacher, Newport High School, Bellevue School District
Jan Sheppard, Jan Sheppard and Associates, Inc., Seattle
Gena Yousoufian, teacher, Bellevue Community College

Note that the two groups involved both teachers and persons working in the career field. Following a brief introduction to the task of developing career ladders and related competencies, the two groups worked independently

the remainder of the day with most of the time being spent on developing an acceptable set of career steps. Each of the groups was required to do some work on the specific competency statements following the workshop but this work was aided by use of the competency statements previously prepared for the secretarial/clerical ladder.

After completing the first draft of a career ladder for each of the three areas (first draft of these ladders for accounting, data processing and secretarial/clerical are included as Attachment B), the steering committee along with the project consultant, Dr. Howard Johnson of the University of Washington, designed a process to be used in validating each of the career ladders. Major steps and related completion dates for this process were as follows:

1.	Select firms to be involved and prepare interview guide to be used	September 29, 1977
2.	Complete selection of interviewers and invite them to attend an orientation meeting	October 10, 1977
3.	Hold orientation meeting for interviewers and outline expectations for the interview process	October 19, 1977
4.	Conduct review of interview results and meet to revise career ladders as needed	November 2, 1977
5.	Complete final draft of career ladders and outline a model process for development of career ladders	November 28, 1977

The interview guide (mentioned in Step #1 above) is included in Attachment C of this report. The persons involved in the validation interviews and career ladder revision process are identified in Attachment D. The persons interviewed and the agency which they represent are also listed in Attachment D. The final drafts of career ladders (mentioned in Step #5 above) comprise Attachment E. Suffice it here to indicate that several changes were required as a result of the validation process. In each case, the ladder structure was altered; in the data processing area, a number of additional job steps and titles were discovered.

Generalized Model for Career Ladder Development

In presenting a generalized model for developing career ladders, the NEVAC group makes no claim that one particular model is best for all

development activities or for all career fields. The NEVAC group is convinced, however, that the process outlined in the steps listed below is a good one and has the potential of creating better communication in a given region both among teachers of similar occupational programs and among teachers and the employment institutions most likely to employ their students. This generalized model also provides a set of career ladders which can be used as a basis for program, course review and for communicating with the wide variety of publics involved in vocational training programs. The steps involved in this development process along with selected implementing suggestions are presented below. A suggested time frame is provided for each step.

1. Decide what specific ladders are to be developed and establish the management system and funding required to accomplish the task; (duration of the project but special concentration in initial period).

   This first step is crucial in any plan for developing career ladders as it gives the sense of direction necessary to any successful activity. It is suggested that career areas be identified by the vocational leaders of the school or region and that they be those areas for which the least clarity exists at the present time. The career ladder process is designed to give school personnel a clearer vision of the positions for which they are training students; hence, it is probably easiest to start in those areas where the need is greatest.

   The management system (including some provision for needed funds and teacher planning time) is best handled by a small group of vocational education leaders who meet periodically throughout the duration of the project. They establish reasonable timelines of the type included in Attachment A and give needed direction to the project.

2. Decide on information to be collected for each career ladder step and hold developmental workshops for the purpose of creating drafts of the required information; (four weeks required with at least six person-days for initial design of each ladder).

   The information to be collected for each of the career ladder steps will likely depend on the most likely uses of the career ladder materials. In this particular project involving NEVAC schools, the intentions were primarily to give teachers and students a clearer vision of program purposes, and to aid students in an understanding of job expectations in specific career areas. With this in mind, it seemed that the information on degrees and certificates required, sample employers, and competnecies was sufficient. In another instance, it might be useful to identify specific schools providing training for each step of the career ladder. This is particularly true if the information is to be used in helping students plan their future schooling.

Once the decision about information to be collected has been made the project staff can proceed with an initial attempt to draft the needed career ladders. This is best done in a setting involving both teachers of the career field and persons employed in the career field. The NEVAC experience suggests that many teachers in a given career area are simply unaware of the overall structure of the career area and particularly that part of the career ladder which is beyond the training role of their particular school. Persons involved in developing the first draft of a given career ladder should be advised prior to the workshop session to bring any relevant materials (e.g., course outlines, job descriptions, salary schedules, objective statements) to the planning meeting. A group of 6-8 persons is judged ideal for development of this initial draft.

3. Plan and carry out a validation process involving both employment representatives in the career field, and teachers providing training in the career field; (three weeks required and at least eight person-days for interviews and the final revision process).

   Once the initial draft of the career ladder is completed, it is important that it be shared with a crossection of persons employed in the particular career area. These persons should be asked to react to the types of questions included in Attachment C of this report. It is advisable to select among the interviewers asking these questions some leaders who were involved in developing the initial draft of the career ladder and some who were not involved. This minimizes the possible "selling" effect associated with the validation interviews.

   It is important that persons working at most all of the career ladder steps be included among the respondents, as this assures a more complete review process. It is also helpful to set up the interview process in such a way that representatives from a variety of firm types (e.g., construction, manufacturing, retail trade, health services, education) and sizes are included. A worksheet of the type included in Attachment C can be extremely helpful for setting up the validation interview schedule in a way which assures the broadest possible input. At least 12-15 persons should be interviewed for each career area in this validation process and they should be interviewed by persons (preferably teachers) who are well-informed about the project and its goals.

   As a means of assuring maximum input from technical personnel and maintaining good communication with the teaching staffs most likely to use the career ladder materials, it is important that initial drafts of career ladders be shared with as many teachers as possible. Their viewpoints should be incorporated into the revision process at an early stage and some of the teachers can even be involved in conducting the validation interviews.

4. Finalize the career ladders and see that they are dessiminated to potential users; (two weeks required and at least two person-days of editing and layout work).

Once the validation process is completed, it is necessary for those involved in the interviews to create a final version of the career ladder which most adequately describes the career area in question. This final version of the career ladder must then be dessiminated in some form to all potential user groups, including teachers, counselors, students, and employers. For certain groups, only selected bits of information will be useful.

The above steps bring us only to the point of completing the written career ladders. While those involved in developing the ladders have understandably profited from the experience and have no doubt done their part in improving communication between teacher and employer groups, it is important that ladders be used by more than this limited group. The following are suggested uses of the career ladders and form the basis of the NEVAC plans for the future:

1. Prepare informational materials to be used for guidance of teachers, students, and parents.

2. Review of career ladder materials by teachers with the specific intent of adapting course activities to match competencies required on the job.

3. Review of career ladder materials on a departmental or school level with the intent of adapting overall course structure and sequence to steps of the career ladder.

4. Use the materials as a basis for clarifying career training responsibilities of institutions in a given geographical region and for eliminating unnecessary duplication of programs in the region.

5. Develop tests which assess attainment of competencies required for specific career ladder steps --- with tests then being available for purposes of program placement and completion.

6. Revise and add to existing career ladder materials with the intent of maintaining up-to-date information on as many careers as possible.

Any one of these uses requires effort at the local school and/or district level. The NEVAC schools have committed themselves to making some use of the developed career ladders and held a teacher inservice meeting on February 28, 1978 to present and discuss some of these options. The most probable uses of the career ladder materials within NEVAC schools are outlined in the final section of this report.

Future Uses of Career Ladder Materials in the NEVAC Schools

In the previous section, a generalized model for developing career ladders was presented. Some mention was also made of possible uses for the fully developed career ladders. This latter subject was the prime focus for a one-day workshop on February 28, 1978. This workshop was attended by approximately 50 business education department chairpersons and teachers from the several NEVAC schools. An exact listing of those attending is included as Attachment F of this report.

The workshop agenda is included as Attachment G. This workshop was designed and conducted by the NEVAC steering committee and provided an excellent opportunity to inform business education leaders in the NEVAC area of progress in the career ladder project and to involve them in establishing plans for continuing the project even beyond the current funding period. A prime vehicle for informing this group about the project was the checklist of Attachment H. This checklist forced workshop participants to begin the process of matching competency and expectation statements to courses as typically taught in schools of the NEVAC area.

A concluding activity of the workshop involved the establishment of plans for further use of the materials in the various schools and school districts involved in the NEVAC project. Among the more useful ideas generated in this planning session are the following:

1. Many teachers attending the inservice meeting indicated an intention of using the materials as a counseling/guidance tool with individual students. Some indicated a desire to abstract from the materials to develop brochures which might be useful in recruiting students to specific courses and programs.
2. The NEVAC schools will cooperate in the development of a real estate curriculum suitable for use at the high school or in post-secondary institutions. The base for this real estate curriculum will be the development of a career ladder for the real estate field.
3. Some department heads are going to use the materials as a basis for revising course sequencing in their schools.
4. The NEVAC group will present its materials at the State Vocational Teacher Inservice Conference in August, 1978 and will hope to interest other teachers in the career ladder planning process.

Vocational directors of the NEVAC schools and districts will continue to explore applications of the career ladder concept to curricular planning and hope to enlist the assistance of teachers in additional follow-up activities.

ATTACHMENTS

A Timeline for Career Ladder/Competency Project (9/29/77)

B Drafts of Career Ladders

C Interview Guide/Worksheet on Firm Types

D Persons Involved in Validation Interviews/Persons Interviewed in Validation Process

E Final Version of Career Ladders

F Participants Attending Introductory Workshop on Career Ladders

G Agenda for Introductory Workshop

H Competency Checklist Worksheet

[Attachment A]

NEVAC BUSINESS EDUCATION CAREER LADDER/COMPETENCY PROJECT

Timeline:

Task	Process	Completion Date	Comments
1. Develop career ladders and entry-level competency packages for the areas of accounting and data processing.	Small team of business education teachers, business advisors, Galloway, Johnson, Suver and Wing.	Summer 1977	Complete
2. Develop general plan for career ladder/competency validation and staff inservice project.	NEVAC Steering Committee; Galloway, Lindquist, Johnson, McDonald, Suver and Wing	Sept. 1977	
3. Develop procedures for validating career ladders and competencies in the business community. (See attachments for detailed timeline).	Johnson	Sept-Nov. 1977	
4. Inform NEVAC representatives of project status.	NEVAC meeting	Oct. 10, '77	
5. Inform school district, voc-tech and community college business education staffs and advisory committees of the career ladder/competency project.	Local meetings	Oct. 1977	
6. Develop specific plans for inservicing key business education staff and advisory committee persons from all NEVAC districts and institutions on the use of career ladders/competencies for curriculum revisions and development.	NEVAC Steering Committee	Nov. 1977	
7. Conduct inservice session for business education staff and advisory committee members.	Selected staff from NEVAC districts	Jan. 1978	
8. Develop and submit final project report.	Selected Steering Committee members	Feb-Mar. 1978	

[Attachment B]

CAREER LADDER IN SECRETARIAL/OFFICE

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EXECUTIVE SECRETARY

Sample Job Titles: Secretary 4, Correspondence Secretary, Executive Assistant, Senior Secretary
Probable Salary (annual): $9,000 - $12,000

SECRETARY

Sample Job Titles: Secretary 3, Secretary 4, Secretary Middle Management, Junior Secretary
Probable Salary (annual): $6,000 - $10,800

STENOGRAPHER

Sample Job Titles: Typist-Steno, Secretary I
Probable Salary (annual): $6,600 - $9,600

POWER TYPIST

Sample Job Titles: Magnetic Keyboard Operator, Word Processing Specialist
Probable Salary (annual): $6,000 - $8,400

CLERK TYPIST

Sample Job Titles: Typist, Office Assistant, Clerical Assistant
Probable Salary (annual): $5,400 - $7,200

RECEPTIONIST

Sample Job Titles: Switchboard Operator
Probable Salary (annual): $5,540 - $8,400

FILE CLERK

Sample Job Titles: Record Clerk, General Clerk
Probable Salary (annual): $5,520 - $7,320

File Clerk

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. demonstrate manual speed and dexterity in filing;
2. be able to use alphabetical, geographical, subject, numeric, and color filing systems;
3. be able to keep work organized while coping with interruptions;
4. be able to accurately retrieve information;
5. be able to learn the technical vocabulary of the business;
6. have the ability to use catalogs and manuals for reference purposes;
7. be able to demonstrate a working knowledge of a wide variety of forms used in business;
8. have a good memory;
9. have good physical stamina;
10. exercise care in handling papers so as not to deface them when stamping, noting, or fastening;
11. be able to carry out oral and written instructions;
12. be able to use basic math skills;
13. demonstrate the ability to be discreet in handling confidential information.

Receptionist

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. demonstrate the ability to receive and give information pertaining to the company or product;
2. be able to use proper telephone technique;
3. be able to write accurate messages;
4. be able to schedule appointments;
5. be able to provide a list of calls and visitors;
6. be able to refer to directories, files, and other reference manuals;
7. be able to receive visitors in a business-like manner;
8. be able to refer inquiries to others;
9. demonstrate an ability to cooperate with others in a common effort;
10. have a pleasing personality and appearance;
11. be able to sort and distribute mail;
12. be able to type at least 40 net words per minute;
13. be able to practice good human relations;
14. demonstrate the ability to be discreet in handling confidential information.

Clerk Typist

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the file clerk and receptionist with changes and additions as listed below.

The applicant will:

1. be able to perform routine office procedures;
2. be able to demonstrate the ability to use good language arts skills, including spelling, punctuation and grammar;
3. be able to demonstrate good proofreading skills;
4. be able to type at least 50 net words per minute;
5. be able to type letters, memoranda, reports and tabulations with carbon copies from rough draft and/or edited manuscripts;
6. be able to type cards and envelopes;
7. be able to operate office machines such as the 10-key adding machine, electronic calculator, and copying machines;
8. be able to keep records and make simple reports.

Power Typist

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- Offices of large industry, some governmental agencies, some colleges and universities, large insurance firms, law firms

Competencies and/or Expectations --

The applicant will:

1. be able to type at least 70 net words per minute;
2. be able to type all styles of letters, memos, tabluations and manuscripts in proper form with usable carbon copies;
3. have had training on automatic magnetic typewriters.
4. be able to type for long periods of time;
5. be able to use good language arts skills, including spelling, punctuation and grammar;
6. be able to demonstrate good proofreading skills;
7. be able to operate transcribing machines;
8. be able to work under pressure;
9. be able to demonstrate a knowledge of basic word processing concepts;
10. demonstrate the ability to be discreet in handling confidential information.

Stenographer

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- Offices of large business and industry, governmental agencies

Competencies and/or Expectations --

The applicant will:

1. be able to take shorthand-dictation at least 80 words per minute and transcribe the shorthand notes into mailable form;

2. be able to type at least 55 net words per minute;

3. be able to type all styles of letters, memos, tabluations and reports in proper form with usable carbon copies;

4. be able to use good language arts skills, including spelling, punctuation, and grammar;

5. be able to demonstrate good proofreading skills;

6. be able to use reference books, such as an office style manual, zip code directory, telephone directory;

7. be discreet in handling confidential information.

Secretary

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, school, and governmental agencies

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the file clerk, receptionist, clerk typist and stenographer, with changes and additions as listed below:

The applicant will:

1. be able to transcribe from dictating machines;
2. be able to relieve a supervisor of minor administrative duties;
3. be able to compose and type routine business correspondence;
4. be able to supervise file clerks, receptionists, clerk typists and stenographers;
5. be able to make travel arrangements and put together an itinerary;
6. be able to demonstrate recordkeeping skills, including payroll records;
7. be able to complete office inventories and order supplies;
8. be able to research, collect and tabulate data as needed by the employer;
9. be able to type at least 60 net words per minute.

Executive Secretary

Degrees/Certificates Required -- High School Diploma mandatory, Associate Degree recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, and government agencies

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the file clerk, receptionist, clerk typist, stenographer, and secretary, with changes and additions as listed below:

The applicant will:

1. generally be expected to have had some experience as a stenographer in order to obtain a job at this level;
2. be able to type at least 70 net words per minute;
3. be able to take shorthand-dictation at least 100 words per minute and transcribe the shorthand notes into mailable form;
4. be able to compose and type correspondence as requested by the executive;
5. be able to prioritize work effectively;
6. be able to maintain financial records, correspondence files, and resource material relative to the executive's interest;
7. be able to demonstrate a knowledge of the overall operation of the company and the responsibilities of the executive;
8. be able to serve as an administrative assistant to the executive and aid the executive where possible, including carrying out the routine functions of the office in the absence of the executive.

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CAREER LADDER IN DATA PROCESSING

DATA PROCESSING DIRECTOR

Sample Job Titles: None
Probable Salary (annual): $25,000-$45,000

SYSTEM/PROGRAMMING MANAGER

Sample Job Title: None
Probable Salary (annual):
$20,000-$35,000

OPERATIONS MANAGER

Sample Job Title: None
Probable Salary (annual):
$13,000-$25,000

SYSTEMS ANALYST

Sample Job Title: None
Probable Salary (annual):
$15,000-$25,000

OPERATIONS SYSTEM ANALYST

Sample Job Title: None
Probable Salary (annual):
$12,000-$19,000

PROGRAM ANALYST

Sample Job Title: None
Probable Salary (annual):
$12,000-$20,000

PROGRAMMER

Sample Job Titles: Programmer Trainee, Junior Programmer or Coder
Probable Salary (annual):
$9,000-$14,500

PROGRAMMING FUNCTIONS

COMPUTER OPERATOR

Sample Job Title: None
Probable Salary (annual):
$7,800-$13,000

OPERATIONS FUNCTIONS

EAM (electronic accounting machines) OPERATOR

Sample Job Titles:
Decollator/Burster Operator, Stager, Tape Handler, Reproducer/Source Operator
Probable Salary (annual):
$6,000-$9,000

STAGING CLERK

Sample Job Titles:
Scheduler, Tape/Disk Librarian, Documentation Clerk, Input-Output Clerk
Probable Salary (annual):
$6,600-$10,000

DATA ENTRY OPERATOR

Sample Job Titles:
Key Punch Operator, Verifier Operator, Key-Disk/Tape Operator, Terminal Operator
Probable Salary (annual):
$7,200-$9,200

EAM Operator

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, governmental agencies, and service bureaus

Competencies and/or Expectations --

The applicant will:

1. be able to keep work organized while coping with interruptions;
2. be able to accurately retrieve information;
3. be able to learn the technical vocabulary of the business;
4. demonstrate ability to use manuals for reference purposes;
5. demonstrate a working knowledge of a wide variety of forms used in business;
6. have a good memory;
7. have good physical stamina;
8. exercise care in handling papers so as not to deface them when stamping, noting, or fastening;
9. be able to carry out oral and written instructions;
10. have basic mechanical aptitude;
11. demonstrate the ability to be discreet in handling confidential information;
12. be capable of assisting in the operation of sophisticated computers and supporting equipment;
13. under close supervision, perform routine work connected with computer operations (including paper and forms handling for the printer, set up and removal of tapes and cards and general handling of processing materials and supplies).

Staging Clerk

Degrees/Certificates Required -- High School Diploma recommended

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. demonstrate excellent communication skills;
2. be able to expedite and prioritize the flow of work;
3. be able to use a coded filing system;
4. be able to keep work organized while coping with interruptions;
5. be able to accurately file and retrieve information, and/or job orders;
6. be able to learn the technical vocabulary of the business;
7. have the ability to use catalogs and manuals for reference purposes;
8. demonstrate a working knowledge of a wide variety of forms used in business;
9. have a good memory;
10. have good physical stamina;
11. exercise care in handling of records, tapes, and disks so as not to deface them;
12. be able to carry out oral and written instructions;
13. be able to use basic math skills;
14. demonstrate the ability to be discreet in handling confidential information;
15. demonstrate good proofreading skills.

Data Entry Operator

Degrees/Certificates Required -- Proficiency certificate from vocational school, business school, or community college

Sample Employers -- Offices of large industry, some governmental agencies, some colleges and universities, large insurance firms, law firms, and service bureaus

The applicant will:

1. have had training on basic data entry equipment;
2. be able to key a minimum of 10,000 keystrokes per hour with accuracy;
3. be able to enter data for long periods of time;
4. be able to understand technical and instructional manuals;
5. demonstrate the ability to key alpha and numeric data;
6. be able to understand oral and written instructions;
7. be able to demonstrate good proofreading and verifying abilities;
8. be able to function effectively under pressure;
9. demonstrate a working knowledge of Data Processing Concepts;
10. be able to code information from several sources;
11. demonstrate a basic accounting aptitude;
12. be able to perform as a member of a team congenially;
13. demonstrate personal traits such as reliability, initiative, responsibility, and dependability;
14. demonstrate the ability to be discreet in handling confidential information.

Programmer

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical institutes, private business school degree or certificate required

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. demonstrate very strong logical reasoning abilities;
2. analyze and correct programming errors;
3. study and improve existing programs and programming routines;
4. develop machine systems, forms and codes for effectively applying data processing equipment to difficult problems;
5. write computer programs and subroutines using at least one of the standard programming languages;
6. test and debug programs to assure they meet program specifications;
7. document programs for use by others by including items such as flow charts, written instructions, listings, input and output data forms;
8. demonstrate communications skills, both oral and written;
9. demonstrate the ability to be discreet in handling confidential information.

Program Analyst

Degrees/Certificates Required -- High School Diploma required. community college, vocational technical, and private business school degree or certificate required

Sample Employers -- Offices of large business and industry, governmental agencies

Competencies and/or Expectations --

The applicant will:

1. demonstrate very strong logical reasoning abilities;
2. give assignments to, and monitor progress of, subordinates;
3. assist in locating and solving computational errors and machine stoppages by analyzing program instructions;
4. evaluate and prepare difficult programs for data processing equipment;
5. develop machine systems, forms and codes for effectively applying data processing equipment to difficult problems;
6. design detailed programs, flow charts, and diagrams;
7. evaluate and modify existing programs;
8. verify the accuracy and completeness of programs;
9. design or improve charts, manuals, forms and other reporting devices;
10. prepare general and detailed system flow charts;
11. make revisions to procedures, forms, and file designs;
12. prepare detailed input/output forms and record layouts;
13. be able to use reference books, such as computer manuals;
14. demonstrate the ability to be discreet in handling confidential information.

Systems Analyst

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical school certificate or degree required. Some companies require a bachelor degree for this position

Sample Employers -- Offices of large businesses, industry, and governmental agencies

The applicant will:

1. demonstrate very good oral and written communication skills;
2. prepare comprehensive reports of study and analyze data to provide basis for recommendations;
3. assist in establishing project priorities and schedules;
4. develop data on the cost, accuracy, speed and other advantages of existing and/or newly developed data processing techniques or concepts;
5. recommend improvements in charts, manuals, forms, and other reporting devices;
6. assist in preparation of system flow charts, proposed revisions of procedures and forms and project reports;
7. assist in making analytical studies on records management program and filing systems to determine records control and filing needs;
8. assist in the installation of new and improved programs standards, methods, techniques and procedures through contact with other department personnel;
9. instruct personnel directly in writing programs and routines using machine logic;
10. develop and maintain highly complex systems and procedures for machine processing;
11. participate in intra-departmental studies of complex data processing and machine application problems;
12. review completed programs for accuracy and optimum programming;
13. demonstrate the ability to be discreet in handling confidential information;
14. demonstrate very strong logical reasoning abilities.

Systems/Programming Manager

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate required. Some employers require a bachelors degree for this position

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. determine system priorities and monitor progress of project;
2. supervise a highly technical staff of software support personnel;
3. report project status to management and review personnel performance for purpose of salary administration, training, promotion, and work assignment;
4. formulate guidelines for standards of software development and implementation;
5. define scope and objectives of software evaluation and/or development;
6. participate in planning and developing a computer configuration which will meet the requirements of the business;
7. maintain and establish cooperative working relationships with programmer/analyst staff and management;
8. be able to receive visitors in a business-like manner;
9. demonstrate an ability to cooperate with others in a common effort;
10. practice good human relations;
11. demonstrate the ability to be discreet in handling confidential information.

Computer Operator

Degrees/Certificates Required -- High School Diploma recommended, certificates in computer operations from an acceptable vocational school, private business, or community college

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. show how to set up for operations and operate all types of processing machines;
2. be capable of checking functional accuracy of equipment;
3. demonstrate ability to trace and correct operator and/or machine errors;
4. distinguish between machine malfunction and program errors and minimize down time by taking appropriate corrective action;
5. maintain operating logs and records;
6. be able to use proper telephone technique;
7. be able to write accurate messages;
8. demonstrate ability to gain needed information directly from reference manuals;
9. demonstrate an ability to cooperate with others in a common effort;
10. practice good human relations;
11. demonstrate the ability to be discreet in handling confidential information;
12. demonstrate logical reasoning ability;
13. have good physical stamina;
14. be able to function effectively under pressure.

Operation Systems Analyst

Degree/Certificates Required -- High School Diploma Required. Community college, vocational technical, private business school degree or certificate required. Some employers require bachelors degree for this position

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. maintain the operating system and direct service restoration procedures;
2. develop software and utility programs as needed by the computer system;
3. maintain cooperative and established working relationships with programmer/analyst staff and management and operations staff;
4. maintain communication with vendors' technical and service personnel;
5. train and develop computer operations staff;
6. demonstrate the ability to be discreet in handling confidential information;
7. be capable of evaluating proposals for new hardware and software;
8. have good physical stamina;
9. be capable of preparing written reports on operations system performance.

Operations Manager

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate required. Some employers require a bachelors degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. report status to management and review personnel performance for purpose of salary administration, training, promotion, and work assignment;
2. formulate guidelines for standards of machine operation;
3. participate in definition of scope and objectives of software evaluation;
4. participate in planning and developing a computer configuation which will meet the requirements of the of business;
5. maintain cooperative, and establish working relationships with programmer/analyst staff and management and operations staff;
6. be able to receive visitors in a business-like manner;
7. demonstrate an ability to cooperate with others in a common effort;
8. practice good human relations;
9. demonstrate the ability to be discreet in handling confidential information.

Data Processing Director

Degrees/Certificates Required -- Bachelors degree is usually required and a Masters is desired for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant will:

1. be capable of designing and implementing an effective personnel evaluation program.
2. understand the total data processing system and will be capable of evaluating suggested improvements in the system;
3. be skilled in personal relations;
4. demonstrate the ability to be discreet in handling confidential information;
5. be skilled in budget preparation procedures;
6. be skilled in establishing appropriate goals for the data processing staff and in monitoring progress in goal attainment;
7. excercise good judgment in balancing the needs of the organization and those of the individual employees;
8. demonstrate personal commitment to achievement of organizational purposes.

CAREER LADDER IN ACCOUNTING*

PARTNER
Sample Job Titles: None
Probable Salary (annual):
$25,000-$250,000

CONTROLLER
Sample Job Titles: Financial Vice-President, Financial Executive.
Probable Salary (annual): $22,000-125,000

ASSISTANT CONTROLLER
Sample Job Titles: Branch Controller/Division Controller/Plant Controller.
Probable Salary (annual): $15,000-40,000

SPECIAL DEPARTMENT ACCOUNTS
Sample Job Titles: Assistant to the Controller, Tax Manager.
Probable Salary (annual): $12,000-25,000

MANAGER
Sample Job Titles: Supervisor
Probable Salary (annual):
$22,000-$42,000
(This position often leads to a controllership or assistant controllership in private accounting.)

INTERNAL AUDITORS
Sample Job Titles: None
Probably Salary (Annual):
$11,500-$42,000

SENIOR ACCOUNTANT
Sample Job Titles: None
Probable Salary (annual):
$17,000-$27,000
(This position often leads to an assistant controllership in private accounting.)

ASSISTANT BRANCH CONTROLLER
Sample Job Titles: Assistant Divisional Controller, Assistant Plant Controller.
Probable Salary (annual):
$12,000-$25,000

STAFF ACCOUNTANT
Sample Job Titles: None
Probable Salary (annual):
$10,500-$17,000

STAFF SUPERVISOR
Sample Job Titles: Accounting Manager, Accounting Supervisor, Full-Charge Bookkeeper.
Probable Salary (annual):
$14,000-$22,000

ACCOUNTING TECHNICIAN
Sample Job Titles: Intern Bookkeeper
Probable Salary (annual):
$8,500-$16,000

ACCOUNTING CLERK
Sample Job Titles: Accounts Payable/Accounts Receivable Clerk, Payroll Clerk, Cost Accountant.
Probable Salary (annual):
$7,000-$22,000

PUBLIC ACCOUNTING
(CPA Firm)

PRIVATE ACCOUNTING
(Industry and Business)

*Salaries for all steps depend on size of firm and years of experience of the individual.

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Accounting Technician/Accounting Clerk

Degrees/Certificates Required -- High School Diploma, one or two years of a college accounting degree and/or certificate recommended

Sample Employers -- All types of private business, industry, medical institutions, schools, governmental agencies, and accounting businesses

Competencies and/or Expectations --

The applicant will:

1. be able to read and write fluently, legibly, and accurately;
2. be able to follow oral and written directions;
3. be able to use basic arithmetic skills;
4. be able to use various filing systems;
5. be able to keep work organized while coping with interruptions;
6. be able to learn the technical vocabulary peculiar to the business;
7. be able to demonstrate a working knowledge of a wide variety of forms in the business;
8. be able to exercise care in handling papers;
9. have the ability to be discreet in handling confidential data;
10. have the skill to competently operate the 10-key adding machine, and electronic calculator;
11. be able to type at 45 wpm;
12. have a basic understanding of the debit and credit effect on the accounting records;
13. be able to demonstrate a high degree of accuracy in calculating, recording, summarizing, and verifying accounting data;
14. be able, as a payroll clerk, to handle reconciliation of math data, and maintain a payroll register and employee earning records;
15. be familiar with inventory vocabulary, and be knowledgeable of the function of cost accounting in the manufacturing business.

Staff Accountant/Staff Supervisor

Degrees/Certificates Required: Bachelors Degree and CPA Certificate required for CPA firm, and recommended for staff supervisor in private industry, two-year Associate Degree highly desirable for full charge bookkeeper

Sample Employers: All types of private business, CPA firms, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the accounting clerk with additions as listed below:

The applicant will:

1. have a thorough working knowledge of the application of double-entry bookkeeping system and its application in selected situations;
2. be able to prepare the usual tax reports required by business;
3. have the ability to prepare trial balances, income statements, and balance sheets for a business;
4. be able to work well under pressure;
5. be able to prioritize work effectively;
6. be able to supervise and evaluate subordinates;
7. be able to communicate effectively with other employees and other internal users of accounting data.

All Other Accounting Positions

Degrees/Certificates Required -- Bachelors Degree in Business--accounting field--recommended, MBH Degree highly desirable, CPA Certificate, CMA Certificate helpful

Sample Employers -- All types of private business, CPA firms, medical institutions, industry, schools, and governmental agencies

Competencies and/or Expectations --

The applicant must have the competencies as enumerated for the staff accountant/staff supervisor with the additions as identified below:

1. continue his/her education in accounting;
2. have successful years of experience in accounting;
3. delegate authority effectively;
4. demonstrate an increasing ability to "get the job done";
5. demonstrate the characteristics for successful decision making;
6. show superior ability as a communicator.

[Attachment C]

Interview Guide for Validation of Career Ladders

Date _____ Interviewer _____

Respondent:

Name _____ Job Title _____

Organization/Business _____ Phone _____

The packet represents an attempt to make a career ladder for the _____ field. Note the following about the ladder as developed by a group of teachers and business/industry personnel:

1) Each step of the ladder identifies a particular type of work and presumably a set of competencies required for successful completion of that work.

2) Salaries for the various steps sometimes overlap. This suggests that the ladder is not a precise heirarchical structure but rather a sliding scale with certain job types identified along the scale.

3) Obtaining a job at any of the several steps of the ladder requires certain minimum competencies or understandings. Sometimes certificates or degrees are also prerequisites for the work. In some cases, these certificates or degrees may represent acquisition of at least some of the listed competencies; in other situations, the certificates or degrees may bear only a weak relationship to the listed competencies.

4) A ladder of this type can hopefully be used in several ways. It can serve as an aid for students who desire to understand the various options available in a particular career area. It can also serve as an aid in standardizing terminology for a particular career field, thereby improving communication between the educators, students, and business/industry personnel. Once the terminology is accepted, it is possible for training institutions to identify the career steps toward which their programs are directed and to create a mapping between course offerings and specific career steps. It can also be used as a basis for determining program entry points for students transfering from other schools and for developing a wide variety of diagnostic and exit competency tests.

Having examined these several aspects of career ladder development and use, it will be helpful for you to give your opinions as to whether this tentative career ladder represents a reasonably adequate description of the career field in question. With this in mind, could you please respond to each of the following questions:

1. Based on your understanding of the ladder, which steps are utilized in your firm, i.e., at which of the steps on the ladder do you employ persons?

2. Are there any types of workers within this career field which don't appear to fit on the ladder?

3. Do you use any sample job titles other than those indicated on the cover page? If so, what are they?

4. Do the salary ranges for the several career steps seem reasonable?

5. Select any two steps of the tentative career ladder and evaluate the reasonableness of the competency/expectations listing.

   a) In your particular experience, is each of the listed competencies/ expectations needed by persons at this particular level?

   b) Are there any competencies or expectations which should be added to the list?

   c) Do any competencies or expectations need further clarification?

6. Which of the several uses of the career ladder would seem to be most useful and what further suggestions would you have for maximizing benefits obtained through the use of career ladders?

Worksheet on Types of Firms*

Type of Firm	I Secretarial/Office (16)	II Accounting (12)	III Data Processing (12)
Agricultural [4.5] (including mining, fishing, etc.)			
Construction [6.1]			
Manufacturing [21.6]			
Transportation [4.5]			
Utility and Sanitary Services [3.1]			
Wholesale Trade [4.9]			
Retail Trade [16.6]			
Finance and Insurance [5.6]			
Business and Repair Service [3.1]			
Entertainment and Recreation [0.9]			
Welfare and Religions [1.7]			
Legal, Engineering, etc. [2.4]			
Personal Services [4.3]			
Health Services [5.9]			
Education Services [9.2]			
Public Administration [5.6]			

*Numbers in brackets [ ] represent percent of all employees working in the indicated industry type. Numbers in parenthesis ( ) indicate the number of respondents to be selected from each group. Respondents will be selected from large (L), medium (M), small (S) firms and should be selected at a variety of points on the designated career ladder. The firm size distribution for purposes of this validation process is as follows: Large (1000 + employees), Medium (250 - 999 employees), Small (1 - 249 employees)

[Attachment D]

PERSONS CONDUCTING VALIDATION INTERVIEWS

[1] Accounting

Donna Hoffman, Lake Washington Vo. Tech.

Don McGilvra, Shoreline Community College

Marv Romsland, Sammamish H.S., Bellevue

[2] Data Processing

Eloise Kagarice, Renton Vo. Tech.

Jim Murphy, Newport H.S., Bellevue

Gina Yousoufian, Bellevue Community College

[3] Secretarial/Office

Leslie Ewer, Liberty H.S., Issaquah

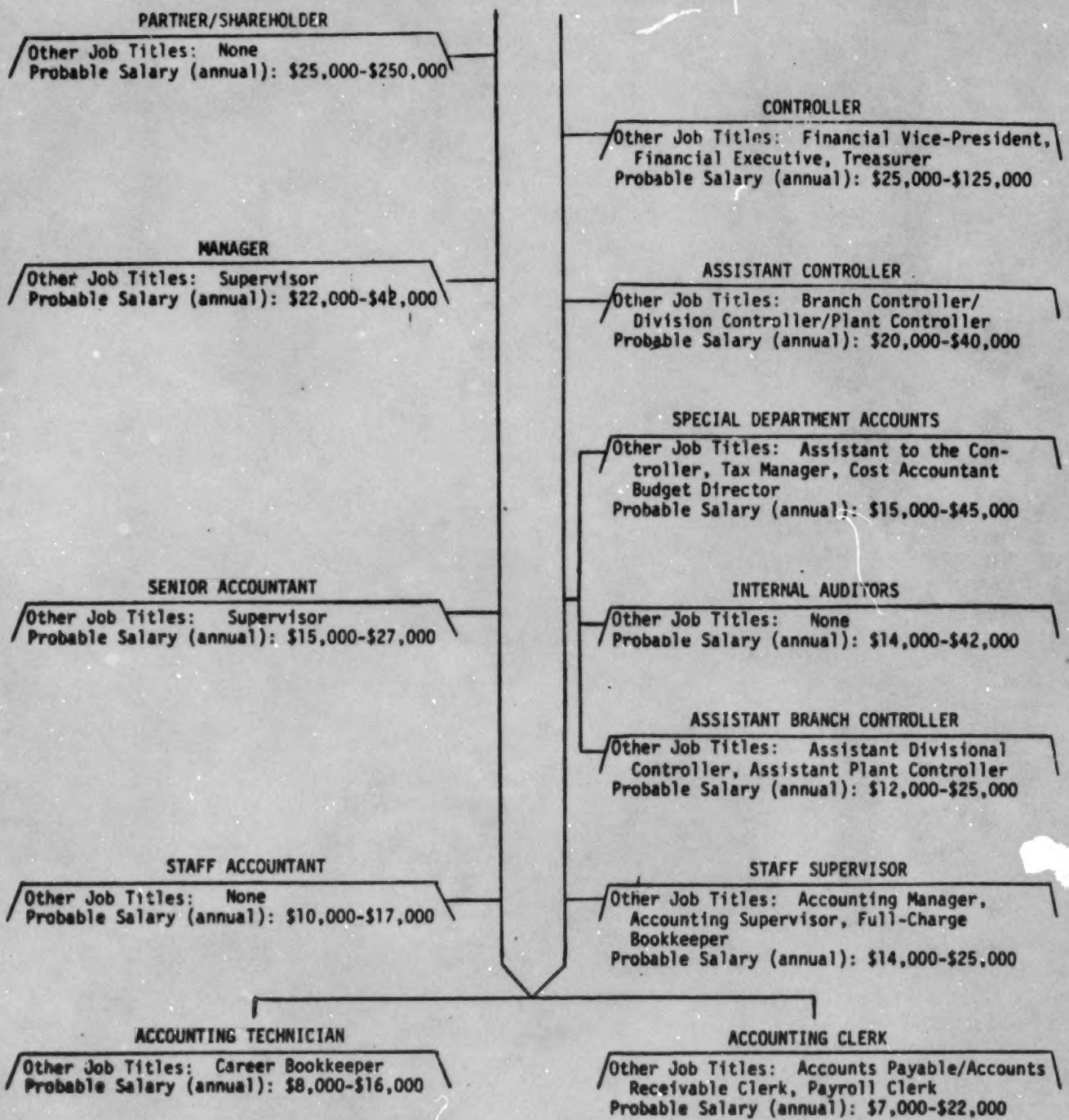
Jan Gould, Bellevue Community College

Lee Nordgren, Mercer Island H.S.

Peggy Stevensor, Shorewood H.S., Shoreline

CAREER LADDER IN ACCOUNTING*

[Attachment E]


PARTNER/SHAREHOLDER
Other Job Titles: None
Probable Salary (annual): $25,000-$250,000
CONTROLLER
Other Job Titles: Financial Vice-President, Financial Executive, Treasurer
Probable Salary (annual): $25,000-$125,000
MANAGER
Other Job Titles: Supervisor
Probable Salary (annual): $22,000-$42,000
ASSISTANT CONTROLLER
Other Job Titles: Branch Controller/ Division Controller/Plant Controller
Probable Salary (annual): $20,000-$40,000
SPECIAL DEPARTMENT ACCOUNTS
Other Job Titles: Assistant to the Controller, Tax Manager, Cost Accountant Budget Director
Probable Salary (annual): $15,000-$45,000
SENIOR ACCOUNTANT
Other Job Titles: Supervisor
Probable Salary (annual): $15,000-$27,000
INTERNAL AUDITORS
Other Job Titles: None
Probable Salary (annual): $14,000-$42,000
ASSISTANT BRANCH CONTROLLER
Other Job Titles: Assistant Divisional Controller, Assistant Plant Controller
Probable Salary (annual): $12,000-$25,000
STAFF ACCOUNTANT
Other Job Titles: None
Probable Salary (annual): $10,000-$17,000
STAFF SUPERVISOR
Other Job Titles: Accounting Manager, Accounting Supervisor, Full-Charge Bookkeeper
Probable Salary (annual): $14,000-$25,000
ACCOUNTING TECHNICIAN
Other Job Titles: Career Bookkeeper
Probable Salary (annual): $8,000-$16,000
ACCOUNTING CLERK
Other Job Titles: Accounts Payable/Accounts Receivable Clerk, Payroll Clerk
Probable Salary (annual): $7,000-$22,000
PUBLIC ACCOUNTING
(CPA FIRM)
PRIVATE ACCOUNTING
(INDUSTRY AND BUSINESS)

*Salaries for all steps depend on size of firm and years of experience of the individual. In general, public and private accounting are considered separate career patterns after the initial accounting technician/accounting clerk steps; however, there is some crossing possible. As an example, it is quite common for a staff or senior accountant in the public accounting field to assume positions at the assistant branch controller level or above on the private accounting side.

ACCOUNTING TECHNICIAN/ACCOUNTING CLERK

Degrees/Certificates Required -- High School Diploma, one or two years of a college accounting degree and/or certificate recommended.

Sample Employers -- All types of private business, industry, medical institutions, schools, governmental agencies, and accounting businesses.

Competencies and/or Expectations --

The applicant will:

1. demonstrate common sense and good judgment in carrying out assigned work;
2. be able to read and write fluently, legibly, and accurately;
3. be able to follow oral and written directions;
4. be able to communicate orally in an effective manner with other employees and other internal users of accounting data;
5. be able to use basic arithmetic skills;
6. be able to use various filing systems;
7. be able to prioritize work effectively;
8. be able to work well under pressure;
9. be able to keep work organized while coping with interruptions;
10. be able to learn the technical vocabulary peculiar to the business;
11. be able to demonstrate a working knowledge of a wide variety of forms in the business;
12. be able to exercise care in handling papers;
13. demonstrate discretion in handling confidential data;
14. have the skill to competently operate the 10-key adding machine, and electronic calculator;
15. be able to type at 45 wpm with a high degree of accuracy;
16. have a basic understanding of the debit and credit effect on the accounting records;
17. be able to calculate, record, summarize, and verify accounting data;
18. be able, as payroll clerk, to handle reconciliation of math data, and maintain a payroll register and employee earning records;
19. be familiar with inventory vocabulary, and be knowledgeable of the function of cost accounting in the manufacturing business;

20. demonstrate ability to be an effective teamworker;

21. demonstrate knowledge of employee organizational responsibilities;

22. demonstrate good punctuality and attendance;

23. demonstrate concern for client interests and effectively communicate institutional services to clients.

STAFF ACCOUNTANT/STAFF SUPERVISOR

Degrees/Certificates Required: Bachelors Degree and CPA Certificate required for CPA firm, and recommended for staff supervisor in private industry, two-year Associate Degree highly desirable for full charge bookkeeper.

Sample Employers: All types of private business, CPA firms, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the accounting technician and clerk level with additions as listed below:

The applicant will:

1. have a thorough working knowledge of the application of double-entry bookkeeping system and its application in selected situations;
2. be able to prepare the usual tax reports required by business;
3. have the ability to prepare trial balances, income statements, and balance sheets for a business;
4. be able to supervise and evaluate subordinates;
5. demonstrate the characteristics for successful decision making.

ALL OTHER ACCOUNTING POSITIONS

Degrees/Certificates Required -- Bachelors Degree in Business--accounting field--recommended, MBA Degree highly desirable, CPA Certificate, CMA Certificate helpful.

Sample Employers -- All types of private business, CPA firms, medical institutions, industry, schools, and governmental agencies.

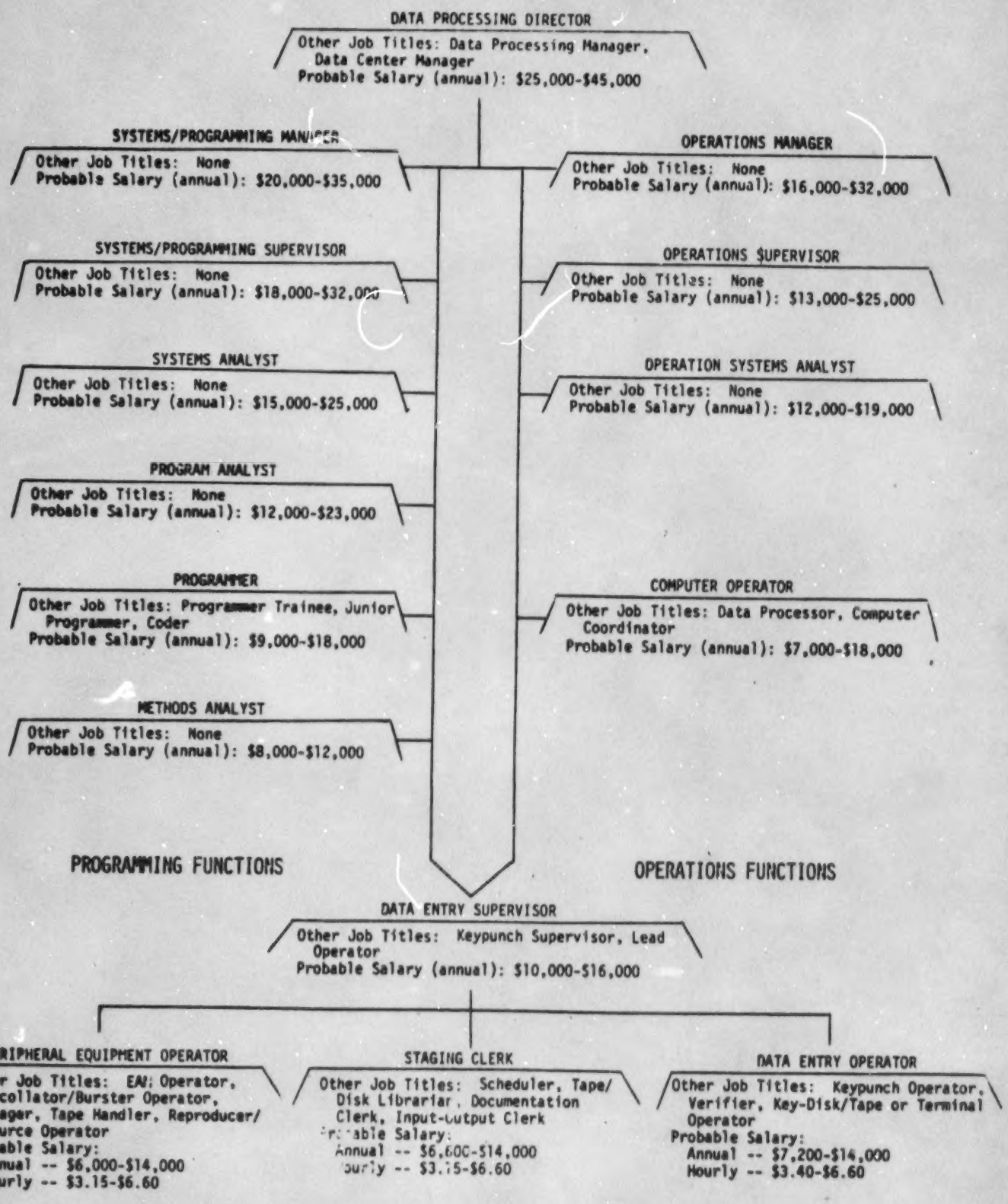
Competencies and/or Expectations --

The applicant must have the competencies as enumerated for the staff accountant/staff supervisor with the additions as identified below:

The applicant will:

1. continue his/her education in accounting;
2. have successful years of experience in accounting;
3. delegate authority effectively;
4. demonstrate an increasing ability to "get the job done;"
5. show superior ability as a communicator.

CAREER LADDER IN DATA PROCESSING



The programming and operations functions are generally considered to be separate career patterns; however, there is occasional crossing between the two sides of the career ladder. The most frequent movement is from the operations side into programming positions.

PERIPHERAL EQUIPMENT OPERATOR

Degrees/Certificates Required -- High School Diploma recommended.

Sample Employers -- All types of private business, medical institutions, industry, schools, governmental agencies, and service bureaus.

Competencies and/or Expectations --

The applicant will:

1. be in good physical condition with the ability to stand for an entire working shift;
2. demonstrate a basic mechanical aptitude;
3. be capable of assisting in the operation of computers and supporting equipment;
4. perform routine work connected with computer operations (including paper and forms handling for the printers, set up and removal of tapes and cards and general handling of processing materials and supplies);
5. be able to keep work organized while coping with interruptions;
6. be able to accurately retrieve information;
7. be able to learn the technical vocabulary of the business;
8. demonstrate a working knowledge of a wide variety of forms used in business;
9. demonstrate ability to use manuals for reference purposes;
10. demonstrate good memory skills;
11. exercise care in handling papers so as not to deface them when stamping, noting, or fastening;
12. be able to carry out oral and written instructions;
13. demonstrate the ability to use discretion in handling information.

STAGING CLERK

Degrees/Certificates Required -- High School diploma recommended.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. have good physical stamina and be in good physical condition with the ability to stard for an entire working shift;
2. demonstrate good communication skills;
3. be able to expedite and prioritize the flow of work;
4. be able to use a coded filing system;
5. demonstrate good basic math skills;
6. demonstrate good proofreading skills;
7. be able to keep work organized while coping with interruptions;
8. be able to accurately file and retrieve information, and/or job orders;
9. be able to learn the technical vocabulary of the business;
10. have the ability to use catalogs and manuals for reference purposes;
11. demonstrate a working knowledge of a wide variety of forms used in business;
12. demonstrate good memory skills;
13. exercise care in handling records, tapes, and disks so as not to deface them;
14. be able to carry out oral and written instructions;
15. demonstrate the ability to use discretion in handling information.

DATA ENTRY OPERATOR

Degrees/Certificates Required -- Proficiency certificate from vocational school, business school, or community college recommended.

Sample Employers -- Offices of large industry, some governmental agencies, some colleges and universities, large insurance firms, law firms, and service bureaus.

Competencies and/or Expectations --

The applicant will:

1. have had training in use of basic data entry equipment;
2. be able to key a minimum of 10,000 keystrokes per hour with accuracy;
3. be able to enter data for long periods of time;
4. be able to understand technical and instructional manuals;
5. demonstrate the ability to key both alpha and numeric data;
6. be able to understand oral and written instructions;
7. demonstrate good proofreading and verifying abilities;
8. be able to function effectively under pressure;
9. demonstrate a working knowledge of data processing concepts;
10. be able to code information from several sources;
11. demonstrate a basic accounting aptitude;
12. be able to perform congenially as a member of a team;
13. demonstrate personal traits such as reliability, initiative, responsibility, and dependability;
14. demonstrate the ability to use discretion in handling information.

DATA ENTRY SUPERVISOR

Degrees/Certificates Required -- Proficiency certificate from a vocational school, business college, or community college recommended.

Sample Employers -- Offices of large industry, some governmental agencies, some colleges and universities, large insurance firms, law firms, hospitals, and service bureaus.

Competencies and/or Expectations --

The applicant will:

1. have had specialized training in use of data entry equipment;
2. have had a minimum of three years of experience in data processing;
3. demonstrate the ability to supervise data entry personnel;
4. demonstrate the ability to maintain a high standard of quality and quantity of output data;
5. demonstrate the ability to schedule and directly supervise the data entry staff in the entry and verification of data;
6. demonstrate the ability to assign and monitor activities related to preparing documents for data entry;
7. demonstrate the ability to prepare and regulate the required documentation;
8. demonstrate the ability to maintain accurate records on completion of input/output data;
9. be able to assist in all personnel functions relating to interviewing, recommendations and performance evaluations;
10. demonstrate the ability to cooperate with others in a common effort;
11. practice good human relations;
12. be able to think and react quickly to unforseen situations;
13. be able to function effectively under pressure;
14. be able to interact effectively with other departments within the organization;
15. demonstrate the ability to use discretion in the handling of information.

METHODS ANALYST

Degrees/Certificates Required: High School Diploma recommended.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate good written communication skills;
2. understand basic data processing terminology;
3. understand basic business terminology and practices and procedures;
4. be able to design and revise forms and procedures used in data processing applications;
5. be able to make recommendations to management on potential changes to forms and procedures;
6. be skilled in describing to the end user of data processing services the flow of information through a system and the part the user plays in that flow;
7. demonstrate the ability to use discretion in handling information;

PROGRAMMER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical institutes, private business school degree or data processing certificate required.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong analytical reasoning abilities;
2. demonstrate good communications skills, both oral and written;
3. demonstrate command of basic business vocabulary;
4. be skilled in analyzing and correcting programming errors;
5. be able to study and improve existing programs and programming routines;
6. demonstrate ability to write computer programs and subroutines using standard programming languages;
7. be capable of designing a plan to test and debug programs in a way which assures that they meet specifications;
8. be capable of assisting in locating and solving computational errors and machine stoppages by analytical program instruction;
9. document programs for use by others by including items such as flow charts, written instructions, listings, input and output data forms;
10. be capable of operating the computer system being used to process programs;
11. demonstrate the ability to use discretion in handling information.

PROGRAM ANALYST

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required.

Sample Employers -- Offices of large business and industry, governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong logical and analytical reasoning abilities;
2. be able to give assignments to, and monitor progress of, subordinates;
3. assist in locating and solving computational errors and machine stoppages by analyzing program instructions;
4. evaluate and prepare difficult programs for data processing equipment;
5. design detailed programs, flow charts, and diagrams;
6. evaluate and modify existing programs;
7. verify the accuracy and completeness of programs;
8. demonstrate the ability to design or improve charts, manuals, forms and other reporting devices;
9. demonstrate the ability to make system design decisions;
10. be capable of preparing [illegible] and detailed system flow charts;
11. be capable of making revisions to procedures, forms, and file designs;
12. be able to prepare detailed input/output forms and record layouts;
13. be able to use reference books, such as computer manuals;
14. demonstrate the ability to give presentations;
15. demonstrate the ability to use discretion in handling information;
16. demonstrate the ability to provide assistance to programmer trainees.

SYSTEMS ANALYST

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical school certificate or degree required. Some companies require a bachelor degree for this position.

Sample Employers -- Offices of large businesses, industry, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong logical and analytical reasoning abilities;
2. demonstrate very good oral and written communication skills;
3. be able to prepare comprehensive reports and to analyze data which provide basis for recommendations;
4. assist in establishing project priorities and schedules;
5. be able to develop data on the cost, accuracy, speed and other advantages of existing and/or newly developed data processing techniques or concepts;
6. assist in preparation of system flow charts, proposed revisions of procedures and forms and project reports;
7. assist in making analytical studies on records management program and filing systems to determine records control and filing needs;
8. assist in the installation of new and improved program standards, methods, techniques and procedures through contact with other department personnel;
9. be able to instruct personnel directly in writing programs and routines using machine logic;
10. be able to develop and maintain highly complex systems and procedures for machine processing;
11. be capable of participating in intra-departmental studies of complex data processing and machine application problems;
12. review completed programs for accuracy and optimum programming;
13. recommend improvements in charts, manuals, forms, and other reporting devices;
14. demonstrate the ability to use discretion in handling information.

SYSTEMS/PROGRAMMING SUPERVISOR

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to effectively supervise a staff of technical software support and applications personnel;
2. be able to prepare comprehensive reports to management on the status of projects in progress;
3. be able to present recommendations to management on the basis of an analysis of relevant data;
4. be competent in reviewing system flows, procedures, and forms and in revising these as necessary;
5. be able to implement guidelines established to standardize software development and implementation;
6. be able to prepare and deliver presentations to management on the status of current and proposed projects;
7. demonstrate ability to maintain and establish good working relationships among the staff;
8. demonstrate an ability to cooperate with others in a common effort;
9. be able to establish and maintain good communications with all major departments of the organization;
10. demonstrate good human relations skills;
11. demonstrate the ability to use discretion in handling information.

SYSTEMS/PROGRAMMING MANAGER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to determine system priorities and monitor progress of projects;
2. be capable of supervising a highly technical staff of software support personnel;
3. be capable of reporting project status to management and reviewing personnel performance for purposes of salary administration, training, promotion, and work assignment;
4. be able to formulate guidelines for standards of software development and implementation;
5. be able to define scope and objectives of software evaluation and/or development;
6. assist in planning and developing a computer configuration which will meet the requirements of the business;
7. maintain and establish cooperative working relationships with programmer/analyst staff and management;
8. be able to receive visitors in a business-like manner;
9. demonstrate an ability to cooperate with others in a common effort;
10. demonstrate good human relations skills;
11. demonstrate the ability to use discretion in handling information.

COMPUTER OPERATOR

Degrees/Certificates Required -- High School Diploma recommended, certificates in computer operations from an acceptable vocational school, private business, or community college required.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be in good physical condition with the ability to stand for an entire shift;
2. be able to work any shift, including irregular hours and weekends as needed;
3. show how to set up for operations and operate all types of processing machines;
4. be capabl of checking functional accuracy of equipment;
5. demonstrate ability to identify operator and/or machine errors;
6. be capable of distinguishing between machine malfunction and program errors and of minimizing down time by taking appropriate action;
7. be able to think and react quickly to unforseen situations with minimum supervisory guidance.
8. be able to understand and operate necessary environmental systems (e.g., fire detection, air conditioning, water cooling systems, and motor generators);
9. maintain good operating logs and records;
10. be able to use proper telephone technique;
11. be able to write accurate messages;
12. demonstrate ability to gain needed information directly from reference manuals;
13. demonstrate ability tc cooperate with others in a common effort;
14. practice good human relations;
15. demonstrate logical reasoning ability;
16. be able to function effectively under pressure;
17. demonstrate the ability to use discretion in handling information.

OPERATION SYSTEMS ANALYST

Degree/Certificates Required -- High School Diploma Required. Community college, vocational technical, private business school degree or computer operator certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate good physical stamina;
2. be able to maintain the operating system and to direct service restoration procedures;
3. be able to maintain cooperative and established working relationships with programmer/analyst staff and management and operations staff;
4. maintain good communication with vendors' technical and service personnel;
5. be capable of training and developing computer operations staff;
6. be capable of preparing written reports on operations system performance;
7. have the ability to correct operator and/or machine errors;
8. demonstrate ability to understand job control language;
9. demonstrate ability to understand application systems;
10. demonstrate the ability to use discretion in handling information.

OPERATIONS SUPERVISOR

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate in computer operations required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be available to handle emergencies on any shift, including weekends;
2. be capable of supervising a staff of highly technical personnel;
3. be able to prepare comprehensive reports to management on the status of projects in progress and general work flow;
4. be able to present recommendations to management and to base these recommendations on analysis of relevant data;
5. be able to implement guidelines for standards of machine operation;
6. be able to think and react quickly to unforseen situations;
7. be able to instruct new personnel in the operation of all machines;
8. be able to understand and operate necessary environmental systems, (e.g., fire detection, air conditioning, water cooling systems, motor generators);
9. demonstrate ability to cooperate with others in a common effort;
10. demonstrate good human relations skills;
11. be able to function effectively under pressure;
12. demonstrate the ability to use discretion in handling information.

OPERATIONS MANAGER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate in computer operations required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to report status of operations to management and to review personnel performance for purposes of salary administration, training, promotion, and work assignment;
2. be able to formulate guidelines for standards of machine operation;
3. be capable of participating in definition of scope and objectives for software;
4. be capable of participating in planning and developing a computer configuration which meet the requirements of the business;
5. understand job schedules and turn around requirements, and manage work center operation to assure commitments are met;
6. be able to manage work center cost to meet established budgets;
7. be able to maintain close vendor relationships and to track machine vendor performance;
8. understand personnel procedures, prepare performance reviews for personnel, maintain personnel training and affirmative action plans;
9. be able to maintain cooperative working relationships with programmer/analyst staff and management and operations staff;
10. be able to receive visitors in a business-like manner;
11. demonstrate an ability to cooperate with others in a common effort;
12. be able to establish and maintain good communications with all major departments of the organization;
13. demonstrate good human relations skills;
14. demonstrate the ability to use discretion in handling information.

DATA PROCESSING DIRECTOR

Degrees/Certificates Recommended -- Bachelor's degree strongly recommended and a Master's degree often desired for this position.

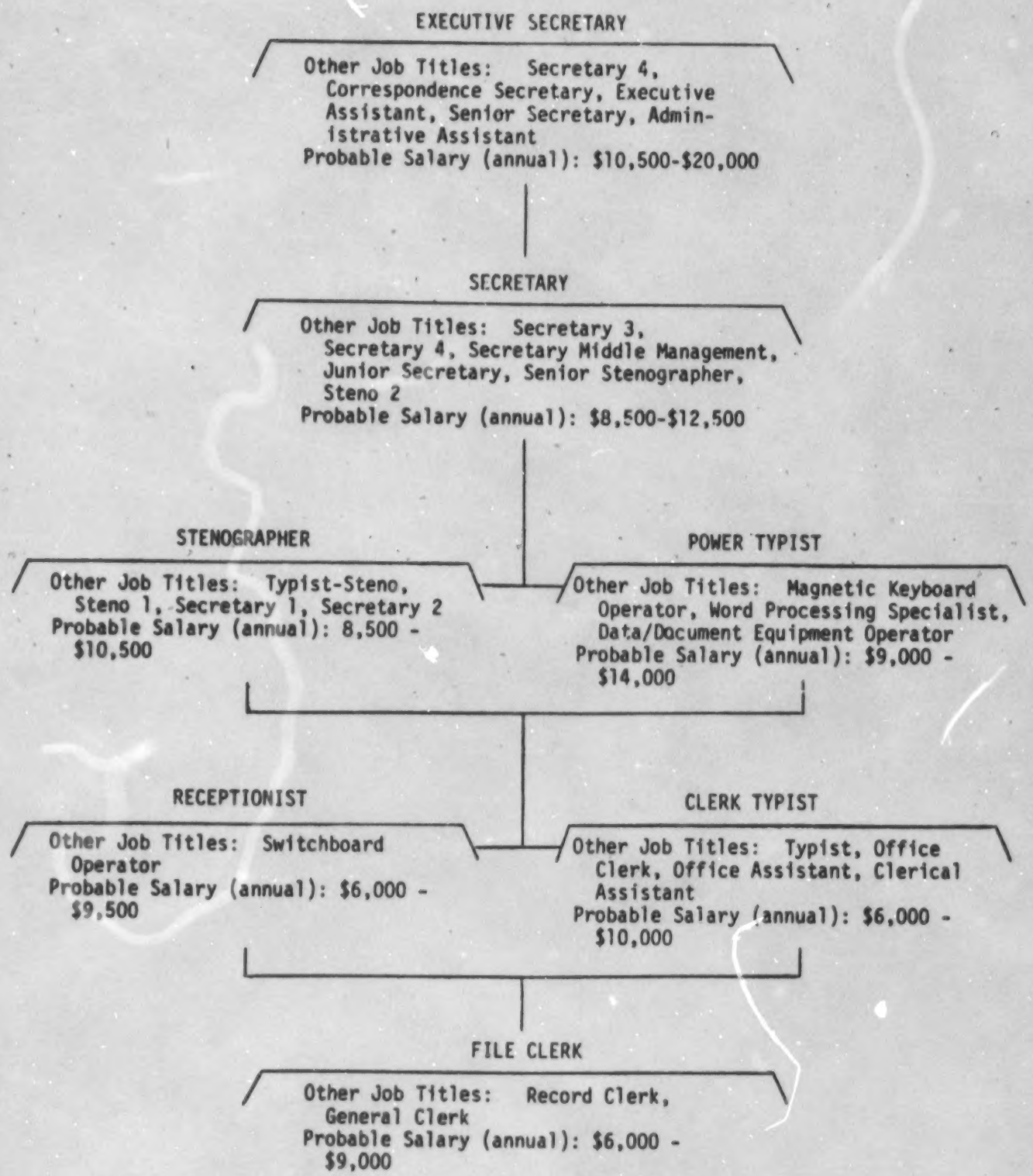
Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be capable of designing and implementing an effective personnel evaluation program;
2. understand the total data processing system and will be capable of evaluating suggested improvements in the system;
3. be skilled in personal relations and be capable of establishing and maintaining good communication with all departments of the organization;
4. demonstrate the ability to use discretion in handling confidential information;
5. be skilled in accounting and budget preparation procedures;
6. be skilled in establishing appropriate goals for the data processing staff and in monitoring progress in goal attainment;
7. exercise good judgment in balancing the needs of the organization and those of the individual employees;
8. demonstrate strong personal commitment to achievement of organizational purposes.

CAREER LADDER IN SECRETARIAL/CLERICAL


EXECUTIVE SECRETARY
Other Job Titles: Secretary 4, Correspondence Secretary, Executive Assistant, Senior Secretary, Administrative Assistant
Probable Salary (annual): $10,500-$20,000
SECRETARY
Other Job Titles: Secretary 3, Secretary 4, Secretary Middle Management, Junior Secretary, Senior Stenographer, Steno 2
Probable Salary (annual): $8,500-$12,500
STENOGRAPHER
Other Job Titles: Typist-Steno, Steno 1, Secretary 1, Secretary 2
Probable Salary (annual): 8,500 - $10,500
POWER TYPIST
Other Job Titles: Magnetic Keyboard Operator, Word Processing Specialist, Data/Document Equipment Operator
Probable Salary (annual): $9,000 - $14,000
RECEPTIONIST
Other Job Titles: Switchboard Operator
Probable Salary (annual): $6,000 - $9,500
CLERK TYPIST
Other Job Titles: Typist, Office Clerk, Office Assistant, Clerical Assistant
Probable Salary (annual): $6,000 - $10,000
FILE CLERK
Other Job Titles: Record Clerk, General Clerk
Probable Salary (annual): $6,000 - $9,000

FILE CLERK

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to keep work organized while coping with interruptions and office pressures;
2. be able to learn the technical vocabulary of the business;
3. be able to carry out oral and written instructions;
4. demonstrate the ability to use discretion in handling information;
5. demonstrate a positive attitude toward work;
6. demonstrate the ability to get along with others;
7. demonstrate manual speed and dexterity in filing;
8. be able to use alphabetical, geographical, subject, numeric, and color filing systems;
9. be able to accurately retrieve information;
10. demonstrate the ability to use catalogs and manuals for reference purposes;
11. demonstrate a working knowledge of a wide variety of forms used in business;
12. demonstrate good memory skills;
13. demonstrate good physical stamina and good appearance;
14. demonstrate care in handling papers so as not to deface them;
15. be able to use basic math and language arts skills.

METHODS ANALYST

Degrees/Certificates Required: High School Diploma recommended.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate good written communication skills;

2. understand basic data processing terminology;

3. understand basic business terminology and practices and procedures;

4. be able to design and revise forms and procedures used in data processing applications;

5. be able to make recommendations to management on potential changes to forms and procedures;

6. be skilled in describing to the end user of data processing services the flow of information through a system and the part the user plays in that flow;

7. demonstrate the ability to use discretion in handling information;

PROGRAMMER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical institutes, private business school degree or data processing certificate required.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong analytical reasoning abilities;
2. demonstrate good communications skills, both oral and written;
3. demonstrate command of basic business vocabulary;
4. be skilled in analyzing and correcting programming errors;
5. be able to study and improve existing programs and programming routines;
6. demonstrate ability to write computer programs and subroutines using standard programming languages;
7. be capable of designing a plan to test and debug programs in a way which assures that they meet specifications;
8. be capable of assisting in locating and solving computational errors and machine stoppages by analytical program instruction;
9. document programs for use by others by including items such as flow charts, written instructions, listings, input and output data forms;
10. be capable of operating the computer system being used to process programs;
11. demonstrate the ability to use discretion in handling information.

PROGRAM ANALYST

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required.

Sample Employers -- Offices of large business and industry, governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong logical and analytical reasoning abilities;
2. be able to give assignments to, and monitor progress of, subordinates;
3. assist in locating and solving computational errors and machine stoppages by analyzing program instructions;
4. evaluate and prepare difficult programs for data processing equipment;
5. design detailed programs, flow charts, and diagrams;
6. evaluate and modify existing programs;
7. verify the accuracy and completeness of programs;
8. demonstrate the ability to design or improve charts, manuals, forms and other reporting devices;
9. demonstrate the ability to make system design decisions;
10. be capable of preparing general and detailed system flow charts;
11. be capable of making revisions to procedures, forms, and file designs;
12. be able to prepare detailed input/output forms and record layouts;
13. be able to use reference books, such as computer manuals;
14. demonstrate the ability to give presentations;
15. demonstrate the ability to use discretion in handling information;
16. demonstrate the ability to provide assistance to programmer trainees.

SYSTEMS ANALYST

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical school certificate or degree required. Some companies require a bachelor degree for this position.

Sample Employers -- Offices of large businesses, industry, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate strong logical and analytical reasoning abilities;
2. demonstrate very good oral and written communication skills;
3. be able to prepare comprehensive reports and to analyze data which provide basis for recommendations;
4. assist in establishing project priorities and schedules;
5. be able to develop data on the cost, accuracy, speed and other advantages of existing and/or newly developed data processing techniques or concepts;
6. assist in preparation of system flow charts, proposed revisions of procedures and forms and project reports;
7. assist in making analytical studies on records management program and filing systems to determine records control and filing needs;
8. assist in the installation of new and improved program standards, methods, techniques and procedures through contact with other department personnel;
9. be able to instruct personnel directly in writing programs and routines using machine logic;
10. be able to develop and maintain highly complex systems and procedures for machine processing;
11. be capable of participating in intra-departmental studies of complex data processing and machine application problems;
12. review completed programs for accuracy and optimum programming;
13. recommend improvements in charts, manuals, forms, and other reporting devices;
14. demonstrate the ability to use discretion in handling information.

SYSTEMS/PROGRAMMING SUPERVISOR

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to effectively supervise a staff of technical software support and applications personnel;
2. be able to prepare comprehensive reports to management on the status of projects in progress;
3. be able to present recommendations to management on the basis of an analysis of relevant data;
4. be competent in reviewing system flows, procedures, and forms and in revising these as necessary;
5. be able to implement guidelines established to standardize software development and implementation;
6. be able to prepare and deliver presentations to management on the status of current and proposed projects;
7. demonstrate ability to maintain and establish good working relationships among the staff;
8. demonstrate an ability to cooperate with others in a common effort;
9. be able to establish and maintain good communications with all major departments of the organization;
10. demonstrate good human relations skills;
11. demonstrate the ability to use discretion in handling information.

SYSTEMS/PROGRAMMING MANAGER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or data processing certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to determine system priorities and monitor progress of projects;
2. be capable of supervising a highly technical staff of software support personnel;
3. be capable of reporting project status to management and reviewing personnel performance for purposes of salary administration, training, promotion, and work assignment;
4. be able to formulate guidelines for standards of software development and implementation;
5. be able to define scope and objectives of software evaluation and/or development;
6. assist in planning and developing a computer configuration which will meet the requirements of the business;
7. maintain and establish cooperative working relationships with programmer/analyst staff and management;
8. be able to receive visitors in a business-like manner;
9. demonstrate an ability to cooperate with others in a common effort;
10. demonstrate good human relations skills;
11. demonstrate the ability to use discretion in handling information.

COMPUTER OPERATOR

Degrees/Certificates Required -- High School Diploma recommended, certificates in computer operations from an acceptable vocational school, private business, or community college required.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be in good physical condition with the ability to stand for an entire shift;
2. be able to work any shift, including irregular hours and weekends as needed;
3. show how to set up for operations and operate all types of processing machines;
4. be capabl of checking functional accuracy of equipment;
5. demonstrate ability to identify operator and/or machine errors;
6. be capable of distinguishing between machine malfunction and program errors and of minimizing down time by taking appropriate action;
7. be able to think and react quickly to unforseen situations with minimum supervisory guidance.
8. be able to understand and operate necessary environmental systems (e.g., fire detection, air conditioning, water cooling systems, and motor generators);
9. maintain good operating logs and records;
10. be able to use proper telephone technique;
11. be able to write accurate messages;
12. demonstrate ability to gain needed information directly from reference manuals;
13. demonstrate ability tc cooperate with others in a common effort;
14. practice good human relations;
15. demonstrate logical reasoning ability;
16. be able to function effectively under pressure;
17. demonstrate the ability to use discretion in handling information.

OPERATION SYSTEMS ANALYST

Degree/Certificates Required -- High School Diploma Required. Community college, vocational technical, private business school degree or computer operator certificate required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. demonstrate good physical stamina;
2. be able to maintain the operating system and to direct service restoration procedures;
3. be able to maintain cooperative and established working relationships with programmer/analyst staff and management and operations staff;
4. maintain good communication with vendors' technical and service personnel;
5. be capable of training and developing computer operations staff;
6. be capable of preparing written reports on operations system performance;
7. have the ability to correct operator and/or machine errors;
8. demonstrate ability to understand job control language;
9. demonstrate ability to understand application systems;
10. demonstrate the ability to use discretion in handling information.

OPERATIONS SUPERVISOR

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate in computer operations required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be available to handle emergencies on any shift, including weekends;
2. be capable of supervising a staff of highly technical personnel;
3. be able to prepare comprehensive reports to management on the status of projects in progress and general work flow;
4. be able to present recommendations to management and to base these recommendations on analysis of relevant data;
5. be able to implement guidelines for standards of machine operation;
6. be able to think and react quickly to unforseen situations;
7. be able to instruct new personnel in the operation of all machines;
8. be able to understand and operate necessary environmental systems, (e.g., fire detection, air conditioning, water cooling systems, motor generators);
9. demonstrate ability to cooperate with others in a common effort;
10. demonstrate good human relations skills;
11. be able to function effectively under pressure;
12. demonstrate the ability to use discretion in handling information.

OPERATIONS MANAGER

Degrees/Certificates Required -- High School Diploma required. Community college, vocational technical, private business school degree or certificate in computer operations required. Some employers require a bachelor degree for this position.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to report status of operations to management and to review personnel performance for purposes of salary administration, training, promotion, and work assignment;
2. be able to formulate guidelines for standards of machine operation;
3. be capable of participating in definition of scope and objectives for software;
4. be capable of participating in planning and developing a computer configuration which meet the requirements of the business;
5. understand job schedules and turn around requirements, and manage work center operation to assure commitments are met;
6. be able to manage work center cost to meet established budgets;
7. be able to maintain close vendor relationships and to track machine vendor performance;
8. understand personnel procedures, prepare performance reviews for personnel, maintain personnel training and affirmative action plans;
9. be able to maintain cocperative working relationships with programmer/analyst staff and management and operations staff;
10. be able to receive visitors in a business-like manner;
11. demonstrate an ability to cooperate with others in a common effort;
12. be able to establish and maintain good communications with all major departments of the organization;
13. demonstrate good human relations skills;
14. demonstrate the ability to use discretion in handling information.

DATA PROCESSING DIRECTOR

Degrees/Certificates Recommended -- Bachelor's degree strongly recommended and a Master's degree often desired for this position.

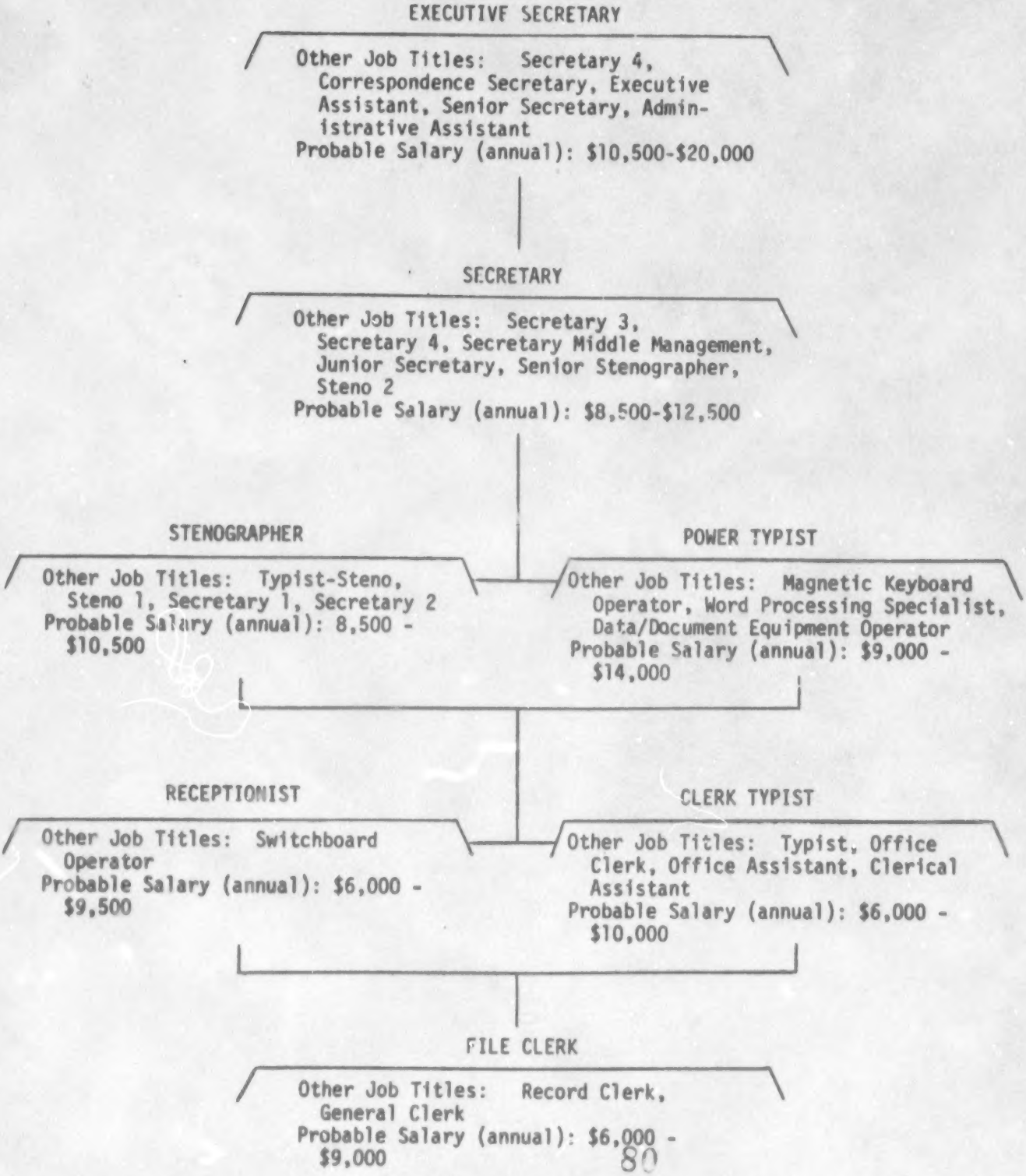
Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be capable of designing and implementing an effective personnel evaluation program;
2. understand the total data processing system and will be capable of evaluating suggested improvements in the system;
3. be skilled in personal relations and be capable of establishing and maintaining good communication with all departments of the organization;
4. demonstrate the ability to use discretion in handling confidential information;
5. be skilled in accounting and budget preparation procedures;
6. be skilled in establishing appropriate goals for the data processing staff and in monitoring progress in goal attainment;
7. exercise good judgment in balancing the needs of the organization and those of the individual employees;
8. demonstrate strong personal commitment to achievement of organizational purposes.

CAREER LADDER IN SECRETARIAL/CLERICAL


EXECUTIVE SECRETARY
Other Job Titles: Secretary 4, Correspondence Secretary, Executive Assistant, Senior Secretary, Administrative Assistant
Probable Salary (annual): $10,500-$20,000
SECRETARY
Other Job Titles: Secretary 3, Secretary 4, Secretary Middle Management, Junior Secretary, Senior Stenographer, Steno 2
Probable Salary (annual): $8,500-$12,500
STENOGRAPHER
Other Job Titles: Typist-Steno, Steno 1, Secretary 1, Secretary 2
Probable Salary (annual): 8,500 - $10,500
POWER TYPIST
Other Job Titles: Magnetic Keyboard Operator, Word Processing Specialist, Data/Document Equipment Operator
Probable Salary (annual): $9,000 - $14,000
RECEPTIONIST
Other Job Titles: Switchboard Operator
Probable Salary (annual): $6,000 - $9,500
CLERK TYPIST
Other Job Titles: Typist, Office Clerk, Office Assistant, Clerical Assistant
Probable Salary (annual): $6,000 - $10,000
FILE CLERK
Other Job Titles: Record Clerk, General Clerk
Probable Salary (annual): $6,000 - $9,000

FILE CLERK

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will:

1. be able to keep work organized while coping with interruptions and office pressures;
2. be able to learn the technical vocabulary of the business;
3. be able to carry out oral and written instructions;
4. demonstrate the ability to use discretion in handling information;
5. demonstrate a positive attitude toward work;
6. demonstrate the ability to get along with others;
7. demonstrate manual speed and dexterity in filing;
8. be able to use alphabetical, geographical, subject, numeric, and color filing systems;
9. be able to accurately retrieve information;
10. demonstrate the ability to use catalogs and manuals for reference purposes;
11. demonstrate a working knowledge of a wide variety of forms used in business;
12. demonstrate good memory skills;
13. demonstrate good physical stamina and good appearance;
14. demonstrate care in handling papers so as not to deface them;
15. be able to use basic math and language arts skills.

RECEPTIONIST

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant will demonstrate competencies 1-6 for the file clerk along with changes and additions as listed below.

The applicant will:

1. demonstrate the ability to receive and give information pertaining to the company or product;
2. be able to use proper telephone technique;
3. be able to write accurate messages;
4. be able to schedule appointments;
5. be able to provide a list of calls and visitors;
6. be able to refer to directories, files, and other reference manuals;
7. be able to receive visitors in a business-like manner;
8. be able to refer inquiries to others in a proper manner;
9. have a pleasing personality, appearance, and voice;
10. be able to sort and distribute mail;
11. be able to type at least 40 net words per minute;
12. demonstrate the ability to use good language arts skills, including spelling, punctuation, and grammar;
13. demonstrate good proofreading skills.

CLERK TYPIST

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the file clerk and receptionist with changes and additions as listed below.

The applicant will:

1. be able to perform routine office procedures;
2. be able to type at least 50 net words per minute;
3. be able to type cards, envelopes, letters, memoranda, reports and tabulations with carbon copies from rough draft and/or edited manuscripts;
4. be able to operate office machines such as the 10-key adding machine, electronic calculator, and copying machines;
5. be able to keep records and make simple reports;
6. be able to design forms and layout material for reproduction.

STENOGRAPHER

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- Offices of large business and industry, governmental agencies.

Competencies and/or Expectations --

The applicant will demonstrate competencies 1-6 for the file clerk with changes and additions as listed below.

The applicant will:

1. be able to take shorthand-dictation at least 80 words per minute and transcribe the shorthand notes into mailable form;

2. be able to type at least 55 net words per minute;

3. be able to type all styles of letters, memos, tabulations and reports in proper form with usable carbon copies;

4. be able to use good language arts skills, including spelling, punctuation, and grammar;

5. demonstrate good proofreading skills;

6. be able to use reference books, such as an office style manual, zip code directory, telephone directory.

POWER TYPIST

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- Offices of large industry, some governmental agencies, some colleges and universities, large insurance firms, law firms.

Competencies and/or Expectations --

The applicant will demonstrate competencies 1-6 for the file clerk with changes and additions as listed below.

The applicant will:

1. be able to type at least 70 net words per minute;
2. be able to type all styles of letters, memos, tabulations and manuscripts in proper form with carbon copies;
3. have had training on automatic magnetic typewriters;
4. be able to type for long periods of time;
5. be able to use good language arts skills, including spelling, punctuation and grammar;
6. demonstrate good proofreading skills;
7. be able to operate transcribing machines;
8. be able to work under pressure;
9. demonstrate a knowledge of basic word processing concepts.

SECRETARY

Degrees/Certificates Required -- High School Diploma or work experience demonstrating a similar level of accomplishment.

Sample Employers -- All types of private business, medical institutions, industry, schools, and governmental agencies.

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the clerk typist and stenographer with changes and additions as listed below.

The applicant will:

1. be able to transcribe from dictating machines and/or take shorthand
2. be able to relieve a supervisor of minor administrative duties;
3. be able to compose and type routine business correspondence;
4. be able to supervise file clerks, receptionists, clerk typists and stenographers;
5. be able to make travel arrangements and put together an itinerary;
6. demonstrate good recordkeeping skills;
7. be able to complete office inventories and order supplies;
8. be able to research, collect and tabulate data as needed by the employer;
9. be able to type at least 60 net words per minute.

EXECUTIVE SECRETARY

Degrees/Certificates Required -- High School Diploma or equivalent education mandatory, Associate Degree recommended.

Sample Employers -- All types of private business, medical institutions, industry, schools, and government agencies.

Competencies and/or Expectations --

The applicant must have the competencies enumerated for the secretary, with changes and additions as listed below.

The applicant will:

1. have had some experience as a secretary in order to obtain a job at this level;

2. be able to compose and type all kinds of office communications as requested by the executive;

3. be able to prioritize work effectively;

4. be able to create and maintain financial records, correspondence files, and resource material relative to the executive's interest;

5. be able to demonstrate a knowledge of the overall operation of the company and the responsibilities of the executive;

6. be able to serve as an administrative assistant to the executive and aid the executive where possible, including carrying out the routine functions of the office in the absence of the executive.

[Attachment F]

The following persons attended the teacher inservice meeting on February 28, 1978. They are identified here by school and according to discussion group.

Group #1

Laura Cook, Interlake H.S.
Gayle Dwyer, Woodway H.S.
Primrose Hawn, Lynnwood H.S.
Wil Wolf, Edmonds C.C.

Group #2

Joanie Bender, Renton School Dist.
Gary Clyde, Lake Washington S.D.
Dave Craig, Highline H.S.
Doris Gerber, Office of S.P.I.
Gene Mount, Bellevue H.S.
Gary Oertli, Edmonds C.C.
Barbara Sievertsen, Edmonds S.D.

Group #3

Patrick Clark, Edmonds School Dist.
Jerry Greer, Hazen H.S.
Annadawn Hopkins, Shoreline C.C.
Marv Romsland, Sammamish H.S.

Group #4

Marion Bellows, Mountlake Terrace H.S.
Al Dormaier, Newport H.S.
Vern Lindquist, Issaquah H.S.
Don MacGilvra, Shoreline C.C.
William Moran, Edmonds School Dist.
Isla Replogle, Shoreline H.S.

Group #5

Joe Brisson, Northshore School Dist.
Leslie Ewer, Issaquah School Dist.
Pat Lay, Bothell H.S.
Pete Shepherd, Shorecrest H.S.
Myra Sorenson, Edmonds H.S.

Group #6

Robert Cole, Snoqualmie Valley S.D.
Dennis Harkins, Mercer Island H.S.
Donna Hoffman, Lake Washington S.D.
Jim Montzheimer, Shoreline C.C.
Catherine Pattermann, Shorewood H.S.
Ardelle Tallman, Edmonds, S.D.

Group #7

Lynnette Ericksen, Lake Washington S.D.
Georgia Kinkaid, Mt. Ranier H.S.
Carol Lawrence, Snoqualmie Valley S.D.
Ann Mitchell, Inglemoor High School
Jim Murphy, Newport H.S.
Mary Phillips, Edmonds C.C.

Attending but not part of Group

Jim Blue, State Board of Community College Education
Larry Galloway, Issaquah S.D.
Malcolm Lindquist, Mercer Island S.D.
Ken McDonald, Shoreline S.D.
Al Suver, Bellevue C.C.
Roger Wing, Bellevue S.D.
Ben Yormark, Highline S.D.

PERSONS INTERVIEWED IN VALIDATION PROCESS

[1] Accounting

Bob Abbott, Weber & Bennett, CPA (Partner)
Pete Berard, McDonald's Business Machines (Office Manager)
Jack Bunnell, City of Mercer Island (Finance Director)
Harley Forcier, Issaquah School District, Business Accounting (Clerk)
Deb Goss, Weber & Bennett, CPA (Accounting Technician)
Harvey Hand, Issaquah School District (Business Manager)
Richard Hulbert, Benson & McLaughlin, P.S., CPA (Staff Accountant)
Dick Knowles, Treadwell Stores (Payroll Manager)
Wayne Larson, The Boeing Co. (Assistant Controller)
Bill Lenzer, Tradewell Stores (Controller)
Bob Lynch, Benson & McLaughlin, P.S., CPA (Shareholder, Partner)
Madeleine Ofenlock, Issaquah School District (Accountant)
Fern Reynolds, Weber & Bennett, CPA (Accounting Technician)
Bob Stacey, The Boeing Co. (Controller)
Paul Wolfe, The Boeing Co. (Finance Director of B.A.C.)
Bob Wood, Puget Power (Assistant Controller)

[2] Data Processing

Deetsy Armstrong, SAFECO (Programming Supervisor)
Steve Bury, Puget Power (Lead Analyst)
Bob Cervinski, Puget Power (Supervisor of Operations)
Sterling Crom, Boeing Computer Services (Systems Consultant/ Programmer)
Mike Ethredge, SAFECO (Systems and Programming Supervisor)
Darrell Hanks, Blue Cross (Data Handling Manager)
Don Kerr, Puget Power (Lead Analyst)
Mel McElroy, King County (Technology Manager)
Leo Pakkala, Bellevue School Dsitrict (General Service Manager)
Robert L. Smith, Boeing Computer Services (Data Center Manager)

PERSONS INTERVIEWED IN VALIDATION PROCESS (Cont.)

[3] Secretarial/Office

Guiger Berg, Gray Line Sightseeing Co. (Charter Services Manager)
Barbara Brownsell, CH2M Hill (Office Service Supervisor)
B. Dee Combs, The Boeing Co. (Employment Supervisor)
Sue DeWaters, Bellevue First Presbyterian Church (Secretary)
Barbara Engler, Doug Fox Travel (Office Manager)
Kim Gerde, Puget Power (Stenographer)
Urania Lindell, Reid Sand and Gravel (Secretary)
Jane Maddox, J. C. Penny (Secretary)
Margaret Mansfield, Pacific N.W. Bell (Business Office Supervisor)
Corinne Markham, Bellevue Community College (Executive Secretary/ Assistant to the President)
Marilyn Moon, Liberty High School, Issaquah (Secretary)
Pat O'Leary, Dr. Wood, Dental Office (Secretary/Receptionist)
Sandy Randolf, McLendon's Hardware (Clerk/Typist)
Joanne Tibbits, Bellevue Community College (Office Assistant II)
Nina Seil, Powers Insurance (Secretary)
Shirley Utting, Rowley Agency (Executive Secretary)

[Attachment G]

N.E.V.A.C.

Curriculum Workshop
February 28, 1978
12:00 p.m. -- 4:30 p.m.
Garden Room-Bellevue Community College

A G E N D A

Lunch.....Noon - 12:45	
Introduction & Welcome.....12:45 - 12:50	
Panel Discussion on Value & Uses of Career Ladders/ Competencies in Vocational Education.....12:50 - 1:15	Ken McDonald Peggy Stephenson-Secretarial Donna Hoffman-Accounting Jim Murphy-Data Processing
History of NEVAC/Background of Articulation I & II Validation Process.....1:15 - 1:25	Roger Wing
Review of Career Ladder/ Competency Development & Validation Process.....1:25 - 1:35	Howard Johnson
Uses of Career Ladders & Competencies.....1:35 - 1:45	Howard Johnson
Career Ladder Competency Familiarization Activity.....1:45 - 2:45	Larry Galloway & Roger Wing
Break.....2:45 - 3:00	
Presentation on Test Development to Assess Attainment of Competencies within Steps of Career Ladders.....3:00 - 3:20	Howard Johnson
Implementation Planning Activity.....3:30 - 4:00	Malcolm Lindquist & Allen Suver
Wrap-up, Evaluation & Materials Distribution.....4:00 - 4:15	Allen Suver

JAS:blb
2/7/78

[Attachment H]

SECRETARIAL/CLERICAL
Program Area

Matching Code:

3 Extensive Coverage
2 Moderate Coverage
1 Minimal Coverage
0 No Coverage

Competencies and/or Expectations	Typing - Level I	Typing - Level II	Business Machines	Business Math	Business Commun.	Shorthand - Level I	Shorthand - Level II	Acctg. - Level I	Acctg. - Level II	Business Law	Data Proc - Intro	Business Graphics	Office Practice	Simulation	Cooperative Office
The applicant will:															
File Clerk -															
1. be able to keep work organized while coping with interruptions and office pressures;															
2. be able to learn the technical vocabulary of the business;															
3. be able to carry out oral and written instructions;															
4. demonstrate the ability to use discretion in handling information;															
5. demonstrate a positive attitude toward work;															
6. demonstrate the ability to get along with others;															
7. demonstrate manual speed and dexterity in filing;															
8. be able to use alphabetical, geographical, subject, numeric, and color filing systems;															
9. be able to accurately retrieve information;															
10. demonstrate the ability to use catalogs and manuals for reference purposes;															
11. be able to demonstrate a working knowledge of a wide variety of forms used in business;															
12. demonstrate good memory skills;															
13. demonstrate good physical stamina and good appearance;															
14. demonstrate care in handling papers so as not to deface them;															

SECRETARIAL/CLERICAL
Program Area

Matching Code:

3 Extensive Coverage
2 Moderate Coverage
1 Minimal Coverage
0 No Coverage

Competencies and/or Expectations	Typing - Level I	Typing - Level II	Business Machines	Business Math	Business Commun.	Shorthand - Level I	Shorthand-Level II	Acctg. - Level I	Acctg. - Level II	Business Law	Data Proc - Intro	Business Graphics	Office Practice	Simulation	Cooperative Office
The applicant will:															
15. be able to use basic math and language arts skills.															
Receptionist -															
1. demonstrate the ability to receive and give information pertaining to the company or product;															
2. be able to use proper telephone technique;															
3. be able to write accurate messages;															
4. be able to schedule appointments;															
5. be able to provide a list of calls and visitors;															
6. be able to refer to directories, files, and other reference manuals;															
7. be able to receive visitors in a business-like manner;															
8. be able to refer inquiries to others in a proper manner;															
9. have a pleasing personality, appearance, and voice;															
10. be able to sort and distribute mail;															
11. be able to type at least 40 net words per minutes;															
12. demonstrate the ability to use good language arts skills, including spelling, punctuation, and grammar;															
13. demonstrate good proofreading skills.															

SECRETARIAL/CLERICAL
Program Area

Matching Code:

3 Extensive Coverage
2 Moderate Coverage
1 Minimal Coverage
0 No Coverage

Competencies and/or Expectations	Typing - Level I	Typing - Level II	Business Machines	Business Math	Business Commun	Shorthand - Level I	Shorthand - Level II	Acctg. - Level I	Acctg. - Level II	Business Law	Data Proc. - In	Business Graphics	Office Practice	Simulation	Cooperative Off
The applicant will:															
Clerk Typist -															
1. be able to perform routine office procedures;															
2. be able to type at least 50 net words per minutes;															
3. be able to type cards, envelopes, letters, memoranda, reports and tabulations with carbon copies from rough draft and/or edited manuscripts;															
4. be able to operate office machines such as the 10-key adding machine, electronic calculator, and copying machines;															
5. be able to keep records and make simple reports;															
6. be able to design forms and layout material for reproduction.															
Stenographer -															
1. be able to take shorthand-dictation at least 80 words per minute and transcribe the shorthand notes into mailable form;															
2. be able to type at least 55 net words per minute;															
3. be able to type all styles of letters, memos, tabulations and reports in proper form with usable carbon copies;															
4. be able to use good language arts skills, including spelling, punctuation, and grammar;															
5. demonstrate good proofreading skills;															
6. be able to use reference books, such as an office style manual, zip code directory, telephone directory.															